

Executive Summary

The NO_x Budget Trading Program (NBP) is a market-based cap and trade program created to reduce emissions of nitrogen oxides (NO_x) from power plants and other large combustion sources in the eastern United States. NO_x is a prime ingredient in the formation of ground-level ozone (smog), a pervasive air pollution problem in many areas of the eastern United States. The NBP was designed to reduce NO_x emissions during the warm summer months, referred to as the ozone season, when ground-level ozone concentrations are highest. This report evaluates progress under the NBP in 2005 by examining emission reductions, comparing changes in emissions to changes in ozone concentrations, and reviewing compliance results and market activity.

2005 Key Results

- **The NBP has successfully reduced ozone season NO_x emissions throughout the region. In 2005, NBP ozone season NO_x emissions were:**
 - 11 percent lower than in 2004 even as power generation increased by 7 percent (primarily due to moving up the seasonal compliance period for 11 Midwestern and Southern states to May 1);
 - 57 percent lower than in 2000 (before implementation of the NBP); and
 - 72 percent lower than in 1990 (before implementation of the Clean Air Act Amendments).
- **Ground-level ozone has improved since the implementation of the NBP.**
 - Ozone formation depends greatly on weather conditions, which can vary significantly from year to year. To get a truer picture of how emission changes impact ozone formation, EPA adjusts ozone concentrations to account for the influences of weather.
 - Average ozone levels in the NBP region have decreased by about 8 percent since 2002. Ground level ozone has improved since the NBP began in 2003.
- There is a strong association between areas with the greatest reductions in NO_x emissions and nearby downwind sites exhibiting the greatest improvements in ozone.
- In 2004, EPA officially designated 103 areas in the eastern United States as 8-hour ozone “nonattainment areas”. These areas were required to improve their ozone air quality with the goal of attaining and maintaining the national air quality standards for ground-level ozone. Based on 2003 to 2005 air monitoring data, ozone air quality improved in all of these areas. Nearly 70 percent of them (68 areas) now have air quality that is better than the level of the standard. The NBP is the major contributor to these improvements.
- **Through a wide range of pollution control strategies and an active NO_x allowance market in 2005, sources achieved over 99 percent compliance with the NBP.**
 - There were 2,570 units affected under the NBP in 2005. Only three NBP sources (four units total) did not hold sufficient allowances.
 - Overall, trading activity increased from 2004 to 2005 with an active market, and allowance prices were slightly lower and somewhat less volatile than in 2004.
 - The flexibility of the NBP provides sources options to reduce NO_x emissions, such as adding NO_x emission control technologies, replacing existing controls with more advanced technologies, or optimizing existing controls.
- **The Clean Air Interstate Rule (CAIR), issued in March 2005, will continue the progress demonstrated by the NBP. CAIR extends this successful cap and trade program to control both ozone and fine particles in 28 eastern states and the District of Columbia.**